

WHAT IS CLAIMED IS:

1. A circuit device comprising:

conductive pattern; circuit element, affixed onto the  
conductive patterns; and an insulating resin, sealing the  
5 conductive pattern and the circuit element while exposing at  
least the bottom surface of the conductive pattern;

wherein recessed part is formed at the side surface of  
the insulating resin, and side surface of the conductive pattern  
that is disposed at peripheral parts is exposed from the recessed  
10 part.

2. The device of Claim 1, wherein the circuit device is  
mounted by attaching brazing material to the exposed side surface  
and bottom surface of the conductive pattern.

3. The device of Claim 1, wherein the circuit element  
15 is semiconductor element and the conductive pattern that is  
disposed at the peripheral part and the semiconductor element  
is connected electrically.

4. The device of Claim 1, wherein the conductive pattern  
comprise die pad and bonding pad and circuit element is mounted  
20 on the die pad and the bonding pad is disposed so as to surround  
the die pad.

5. The device of Claim 1, wherein a plating layer is formed  
on the rear surface and side surface of the conductive patterns

that is exposed from the insulating resin.

6. The device of Claim 1, wherein a covering resin is formed on the surface of the conductive pattern and the circuit element and the conductive pattern are electrically connected  
5 via opening provided in the covering resin.

7. The device of Claim 6, wherein the covering resin comprises a photosensitive resin.

8. A circuit device manufacturing method comprising:  
preparing a conductive foil and forming separation grooves  
10 that are shallower than the thickness of the conductive foil at least at region of the conductive foil except region to be conductive pattern that form a plurality of mounting portions for circuit elements;

affixing the circuit element onto the respective mounting  
15 portions of the conductive pattern;

performing molding with an insulating resin so as to cover the circuit element at the respective mounting portions in a batch and fill the separation groove;

removing the back surface of the conductive foil until  
20 the insulating resin is exposed;

removing the conductive patterns at locations corresponding to boundary of the respective mounting portions to form grooves and thereby expose side surface of the conductive

patterns; and

performing separation by dicing the insulating resin along the boundary.

9. The method of Claim 8, wherein the conductive patterns  
5 are electrically connected by plating film formed on the surfaces of the conductive patterns and a plating layer is formed by electrolytic plating on surfaces of the conductive patterns that are exposed from the insulating resin.

10. The method of Claim 8, wherein the conductive pattern  
10 comprise die pad and bonding pad and circuit element is mounted on the die pad and the bonding pad is disposed so as to surround the die pad.

11. The method of Claim 8, wherein the circuit device  
is mounted by attaching brazing material to the bottom surface  
15 and side surface of the conductive pattern that is exposed from the insulating resin.

12. The method of Claim 8, wherein the groove is formed  
to be greater in width than the width of the dicing blade for  
performing the dicing so that the side surface of the conductive  
20 patterns that are exposed from the insulating resin form recessed parts.

13. The method of Claim 8, wherein the grooves are formed  
by etching.

14. A circuit device manufacturing method comprising:  
preparing a conductive foil;

forming separation groove that is shallower than the  
thickness of the conductive foil at least at region of the  
5 conductive foil except region to be conductive patterns that  
form a plurality of mounting portions for circuit elements;

affixing the circuit element onto the respective mounting  
portions of the conductive pattern;

performing molding with an insulating resin so as to cover  
10 the circuit element at the respective mounting portions in a  
batch and fill the separation grooves;

removing the remaining thickness part of the separation  
grooves to electrically separate the conductive patterns and  
removing the conductive foil at locations corresponding to  
15 boundary of the respective mounting portions to form grooves  
and thereby expose side surface of the conductive pattern; and  
performing separation by dicing the insulating resin along  
the boundary.

15. The method of Claim 14, wherein the conductive pattern  
20 comprise die pad and bonding pad and circuit element is mounted  
on the die pad and the bonding pad is disposed so as to surround  
the die pad.

16. The method of Claim 14, wherein the circuit device

is mounted by attaching brazing material to the bottom surface and side surface of the conductive pattern that are exposed from the insulating resin.

17. The method of Claim 14, wherein the groove are formed  
5 to be greater in width than the width of the dicing blade for performing the dicing so that the side surface of the conductive pattern that is exposed from the insulating resin form recessed part.

18. The method of Claim 14, wherein the grooves are formed  
10 by etching.